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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y., or during the present summer to Wood's Hole, Mass.

THE TEACHING OF MATHEMATICS TO STUDENTS OF ENGINEERING[1]

FROM THE STANDPOINT OF THE PRACTISING ENGINEER

I am honored by being asked to say a few words to you about the results of my experience as to the needs of the teaching of mathematics to students of engineering from the point of view of a practical engineer. I have had the good fortune of receiving quite a thorough mathematical training in the École des Ponts et Chaussèes of France, and I have also had the good fortune of developing into a fairly practical engineer; my remarks will therefore be backed by actual experience.

Mathematics is to an engineer what anatomy is to a surgeon, what chemistry is to an apothecary, what the drill is to an army officer. It is indispensable. I think we all agree on this point.

There is a considerable agitation at this time in France and Germany, especially the former, favoring the limitation of the

[1] What is Needed in the Teaching of Mathematics to Students of Engineering? (*a*) Range of Subjects; (*b*) Extent in the Various Subjects; (*c*) Methods of Presentation; (*d*) Chief Aims. A series of prepared discussions following the formal presentation of the subject by Professor Edgar J. Townsend, Professor Alexander Ziwet, Mr. Charles F. Scott and President Robert S. Woodward. (See SCIENCE, July 17, 1908, pp. 69–79; July 24, 1908, pp. 109–113, and July 31, 1908, pp. 129–138.) Presented before Sections D and A of the American Association for the Advancement of Science and the Chicago Section of the American Mathematical Society, at the Chicago meeting, December 31, 1907.